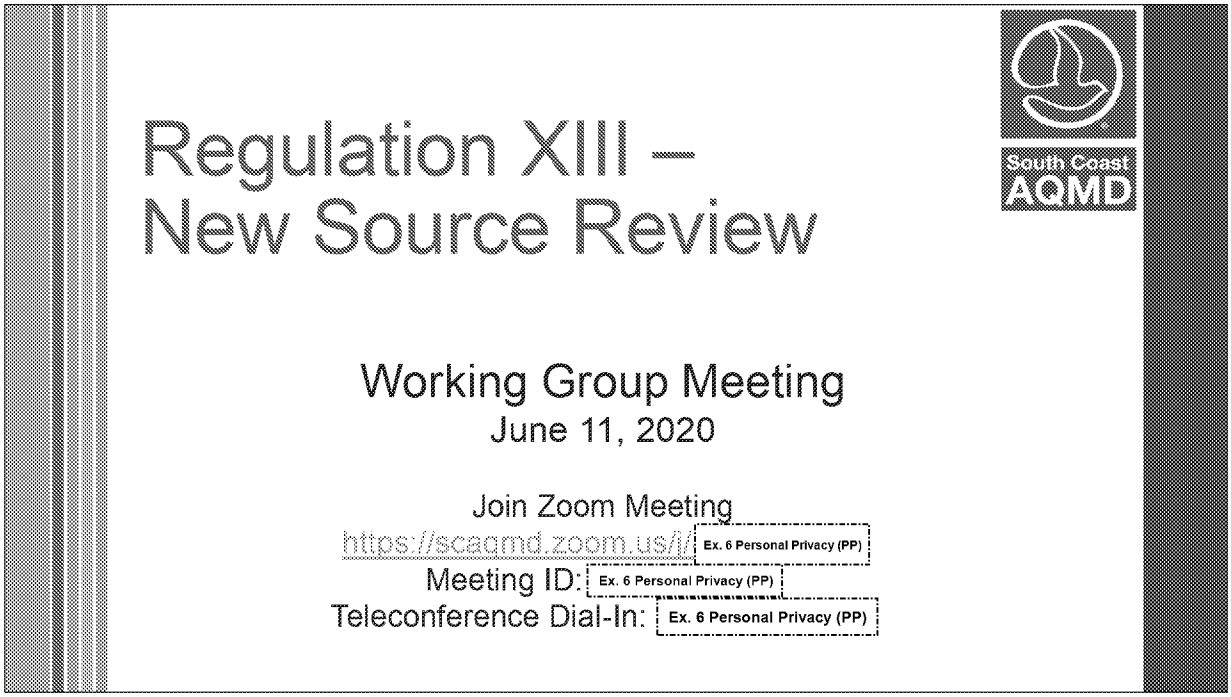

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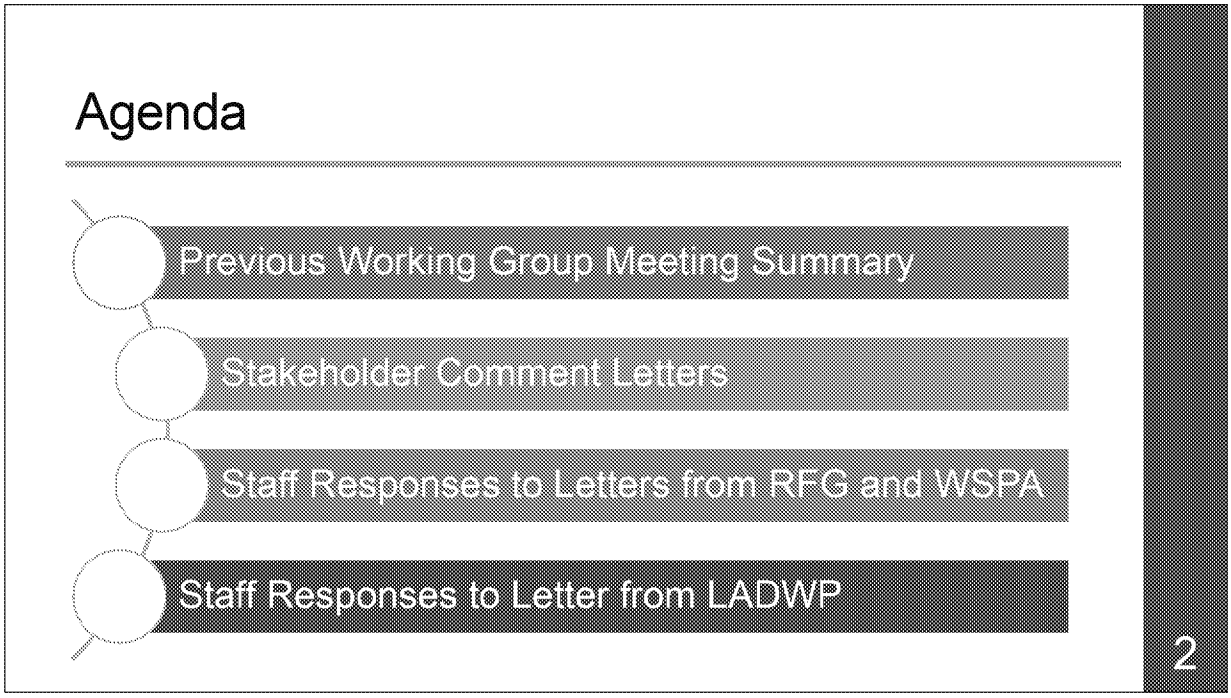

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Previous Working Group Meeting Summary

- Staff presented concepts for a Large Source Bank for NOx, SOx, and PM10
  - For facilities with a Potential to Emit (PTE) ≥ 4 tons/year, for each specific pollutant
  - Apply a source-specific discount based on adopted rules
  - South Coast AQMD would manage the Large Source Bank - fee for offsets
- Discussed discounting approach to ensure offsets are surplus
- Stakeholders commented to maintain the Open Market and suggested ways to make it more successful
- Staff will continue discussions of the Large Source Bank at future working group meetings
- Introduced stakeholder comment letters which will be discussed during this working group meeting

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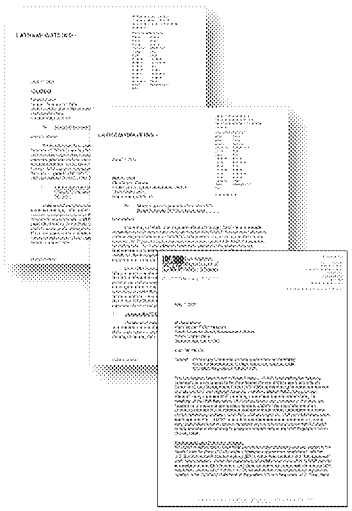
Stakeholder Comment Letters

- South Coast AQMD has received three comments letters pertaining to Regulation XIII
  - April 21, 2020 letter from the Regulatory Flexibility Group (RFG)
  - April 27, 2020 letter from the Western States Petroleum Association (WSPA)
  - May 7, 2020 letter from Los Angeles Department of Water and Power
- Today's working group meeting responds to the comments
- Comment letters are posted on South Coast AQMD's Regulation XIII Proposed Rules Page



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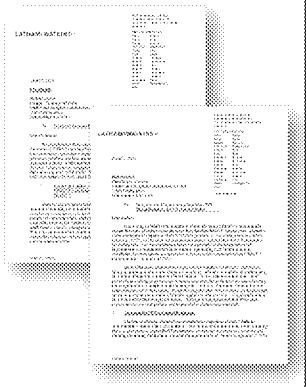
Regulation XIII Comments from RFG and WSPA

- RFG and WSPA letters have similar comments regarding on interpreting and implementing Regulation XIII during permitting for NOx landing rules
- WSPA letter includes additional issues specific to Proposed Rule 1109.1
  - During the Proposed Rule 1109.1 Working Group meeting staff will address the comments that are more specific to that rulemaking
- Presentation today provides staff's responses to the Regulation XIII comments



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Overview of Regulation XIII Comments from RFG and WSPA

- Letters from RFG and WSPA focus on New Source Review requirements for units that install Selective Catalytic Reduction (SCR)
- Comments focus on:
  - Ammonia Limits: Where, when, and how ammonia emission limits for SCR units will be established
  - PM BACT: Applicability of PM BACT requirements for modifications with SCR

Ammonia Limits

Application of PM BACT on Basic Equipment for SCR Modifications

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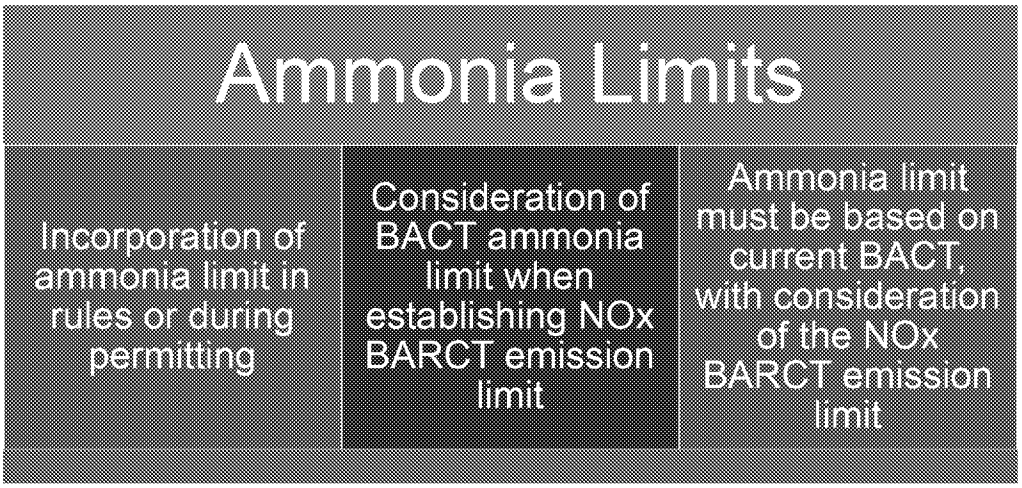
Summary of RFG and WSPA Comments Regarding Ammonia Limits



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Incorporation of Ammonia Limit in Rules or During Permitting

Comment

- Ammonia limits must be addressed during rulemaking and not deferred to permitting

- An ammonia slip limit of 5 ppm for units installing new SCR systems was included in:
  - Rules 1146, 1146.1 for boilers and process heaters;
  - Rule 1134 for turbines; and
  - Rule 1135 combustion equipment at electric generating facilities
- During the rulemaking for Rules 1110.2 (engines) ammonia limits were not included
  - During the rulemaking process staff decided that the ammonia slip is a BACT issue and should be addressed during permitting
  - Staff intends to remove the ammonia slip limits in the rules where ammonia limits were included

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New Source Review Requirements for Modifications with Increased Ammonia Emissions

- Modifications such as installations of new SCR systems can trigger NSR for ammonia emissions from the ammonia slip
  - Rule 1303 (a)(1) requires BACT to be employed if the ammonia emissions increase by 1 pound/day or more[1]
  - Rule 1304 (c)(5) exempts offset requirements for sources modified solely to comply with air pollution control rules provided there is no increase in maximum rating
  - BACT for ammonia is 5 ppm
- Existing SCR units are not subject to NSR or the 5 ppm BACT limit unless they are modified
  - Staff only included ammonia limits in Rules 1146, 1146.1, 1134, and 1135 for new SCR systems
  - Staff intends to allow existing units to maintain existing permit limits for ammonia

[1] South Coast AQMD BACT Guidelines – Overview, February 2019

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Why Addressing Ammonia Emissions During Permitting is More Appropriate

Ammonia Emissions from New SCRs is an NSR issue	Ammonia Limits Can be Evaluated Case-by-Case During Permitting	Ammonia Limit in Rule Will be More Limiting	Less Stringent Ammonia Limit in Rule is Misleading
• Rule 1303 (a)(1) requires BACT if the ammonia emissions are ≥ 1 pound/day • BACT for ammonia emissions from SCR is 5 ppm	• During permitting ammonia limit will be evaluated relative to the NOx limit in rule • Evaluation will consider the existing unit and limitations for achieving a 5 ppm ammonia limit • Ammonia limit must be achievable at time of permitting	• When the ammonia limit is specified in the rule, options are limited if the operator cannot achieve the ammonia limit	• A more stringent BACT ammonia limit will apply, regardless of a higher ammonia limit in a rule • Some exceptions may allow a higher ammonia limit than BACT (e.g., 5 ppm) during permitting • Ammonia limit must be achievable at time of permitting

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Consideration of BACT Ammonia Limit When Establishing NOx BARCT Emission Limit

Comment

- Ammonia limits must be addressed during rulemaking and not deferred to permitting
- Including ammonia limits will ensure that the implications of those limits are considered when setting the NOx BARCT standard

- Rule development does consider BACT ammonia limits when establishing the NOx BARCT emission limit
  - Technical feasibility analysis is based on a 5 ppm ammonia limit for new SCR installation
  - Costs for achieving 5 ppm ammonia is included in the cost-effectiveness analysis
- For Proposed Rule 1109.1 costs are based on EPA's SCR cost-estimator model and cost information from affected refineries
- Cost estimates for the SCR engineering and design include technologies to reduce ammonia slip
  - Improved injection grids for better mixing of ammonia
  - Ammonia Feed Control

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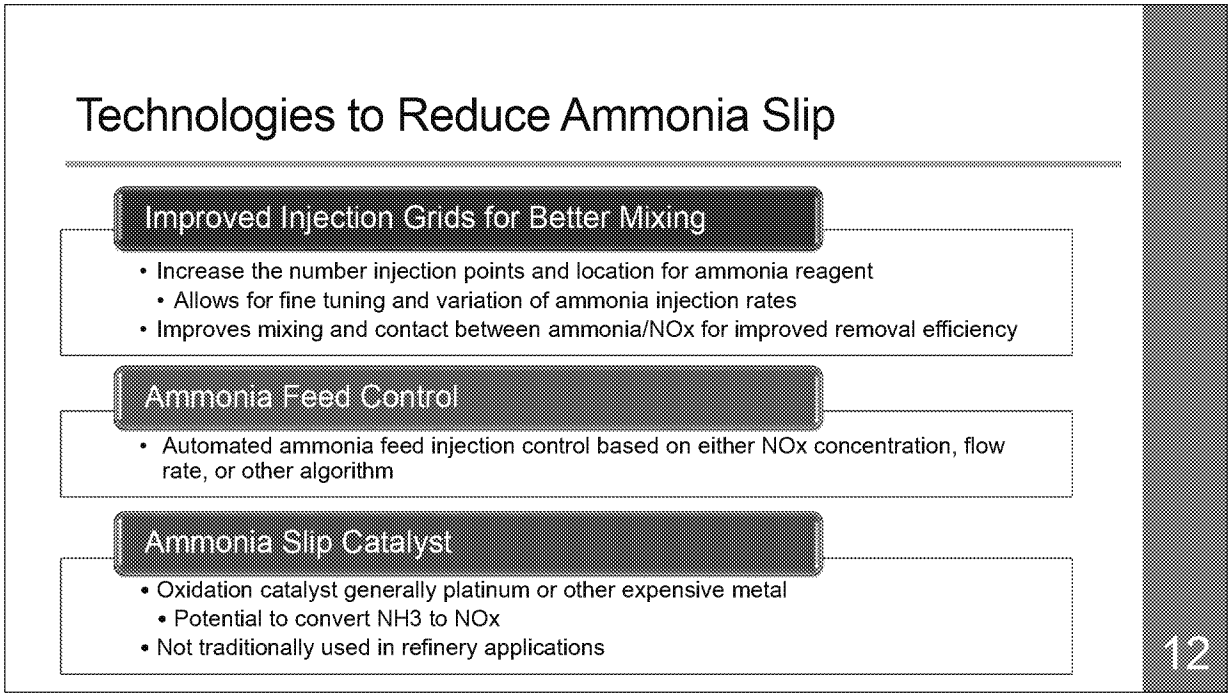

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Ammonia Limit Must be Based on Current BACT with Consideration of the NOx BARCT Emission Limit

Comment

- Ammonia BACT limits for SCR must be based on levels that can be achieved with currently available technology for that class and category of source of equipment
- Must consider all relevant factors including the NOx BARCT standard to be achieved

- Ammonia BACT limit for SCR permitting project is based on current BACT at the time of permit issuance taking into consideration:
  - NOx emission limit in applicable rule
  - Class and category of the equipment which includes equipment size, fuel type, use, and any other relevant factors
  - Any unique circumstances that may limit the ability of the modified unit with SCR to achieve a 5 ppm ammonia limit

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Ammonia CEMS

- Balancing NOx and ammonia limits can be challenging
- One area staff would like to explore with stakeholders is the use of ammonia CEMS with monthly averaging times to allow operators to better balance NOx and ammonia emissions
- Staff will explore this concept with Rule 1109.1 stakeholders

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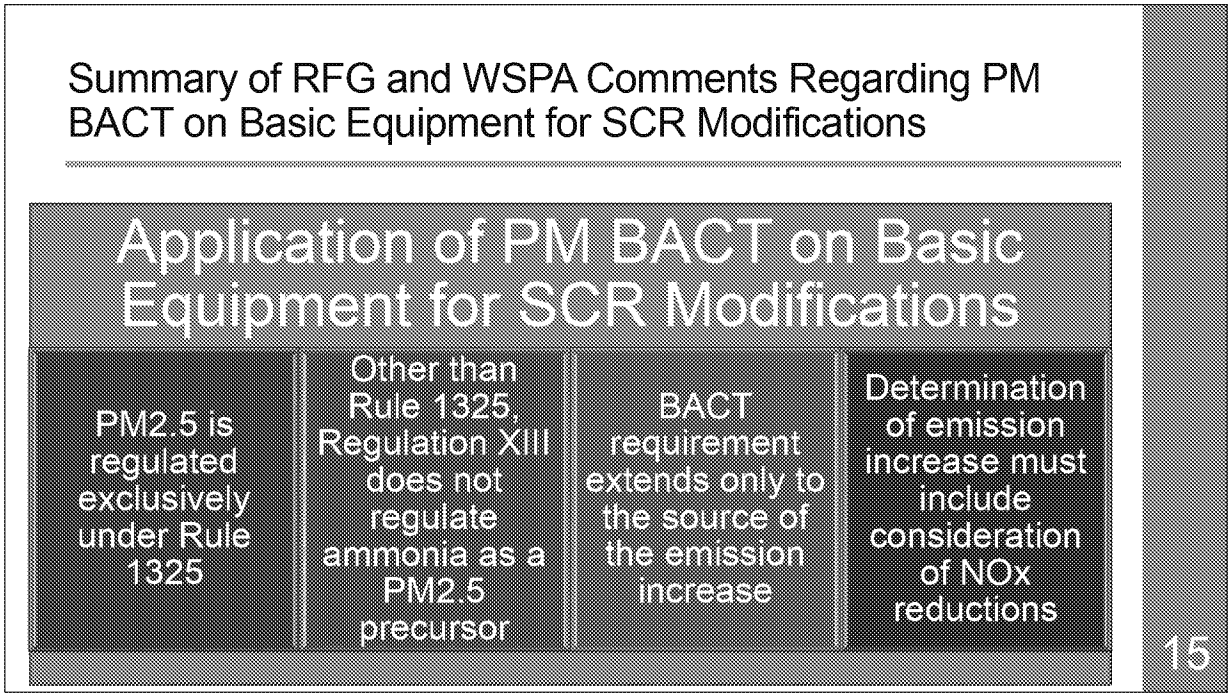
Summary of RFG and WSPA Comments Regarding PM BACT on Basic Equipment for SCR Modifications



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PM2.5 is Regulated Exclusively Under Rule 1325

Comment

- PM created from ammonia slip is PM2.5
- PM2.5 is regulated exclusively under Rule 1325 and the remainder of Regulation XIII does not apply to PM2.5
- Application of PM2.5 threshold for SCR installations

- South Coast AQMD was required to adopt Rule 1325 to establish NSR requirements for PM2.5 to avoid federal sanctions
- Rule 1325 incorporates the federal minimum requirements for PM2.5 NSR
- Staff agrees that many of the provisions in Rule 1325 are exclusive to PM2.5 and do not apply to other portions of Regulation XIII such as:
  - NSR applicability test for PM2.5
  - Definition of a significant net increase in PM2.5 emissions
  - Definition of major modification for PM2.5

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Rule 1325 PM2.5 NSR Requirements Must be Regulated with PM10

- PM10 is a nonattainment pollutant under state standards and is regulated under Regulation XIII
- PM2.5 is a subset of PM10 and major source emission increases in PM2.5 are regulated as PM10 under Rule 1303
  - Even if a facility does not trigger NSR for PM2.5 under Rule 1325, NSR can be triggered based on PM10 emissions
- BACT and offsets for PM10 will apply well before any threshold for PM2.5 under Rule 1325 are reached
  - PM10 net emissions increase is 1.0 lb/day
  - PM2.5 net emissions increase is 55 lbs/day (10 tons/year)
- SB 288 prohibits adopting amendments that weaken NSR provisions that were in place on December 2002

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Major Source Modification Will Trigger PM10 NSR Before PM2.5 NSR Requirements Under Rule 1325

- Unlikely a major source modification will trigger NSR under Rule 1325 for PM2.5 because NSR requirements for PM10 are more stringent
- Unlikely PM2.5 offsets would be required for a new facility
  - Offset not required unless PM2.5 emissions > 70 tons per year

Higher Threshold for Net Increase

- Rule 1325 establishes a significant net increase for a major source modification at 55 lbs/day (10 tons/year)
- Trigger for PM10 net increase is 1.0 lb/day

NSR Applicability Test

- Rule 1325 allows Baseline Actual-to-Projected Actual federal emissions test for PM2.5
- PM10 NSR applicability is based on a PTE-to-PTE emissions test

Definition of Major Source Modification

- Includes exclusions for certain types of modifications
- PM10 NSR requirements are based on emission limits with no exclusions

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Other than Rule 1325, Regulation XIII Does Not Regulate Ammonia as a PM2.5 Precursor

Comment

- Ammonia is regulated as a PM2.5 precursor under Rule 1325
- Regulation XIII regulates direct ammonia emissions and only Rule 1325 regulates ammonia as a precursor
- Rule 1303 does not regulate ammonia that results in an increase of secondary PM2.5 emissions

- There are two ammonia by-products from SCR
  - Directly emitted ammonia from the ammonia slip
  - Directly emitted PM10 emissions from the ammonium sulfate
- Pursuant to Rule 1303(a) increases of ammonia emissions are subject to BACT – for SCR ammonia slip is 5 ppm
- PM10 emissions are generated from ammonium bisulfate emissions (see next two slides)

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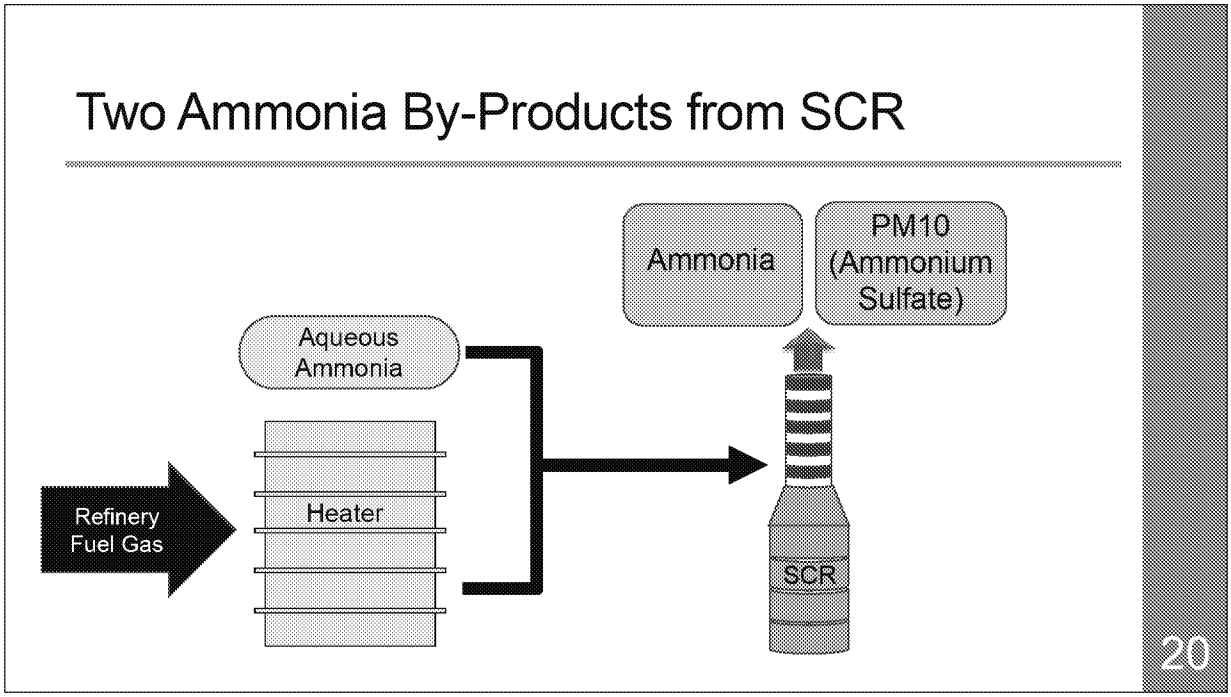

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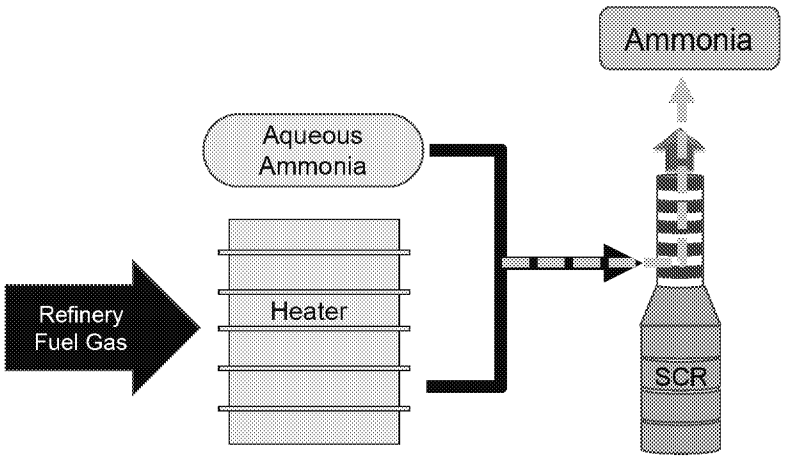
Directly Emitted Ammonia – Ammonia Slip



- SCR uses a catalyst and ammonia reduce NOx to N_2 and H_2O
- Unreacted ammonia that passes through the catalyst is directly emitted – referred to as ammonia slip

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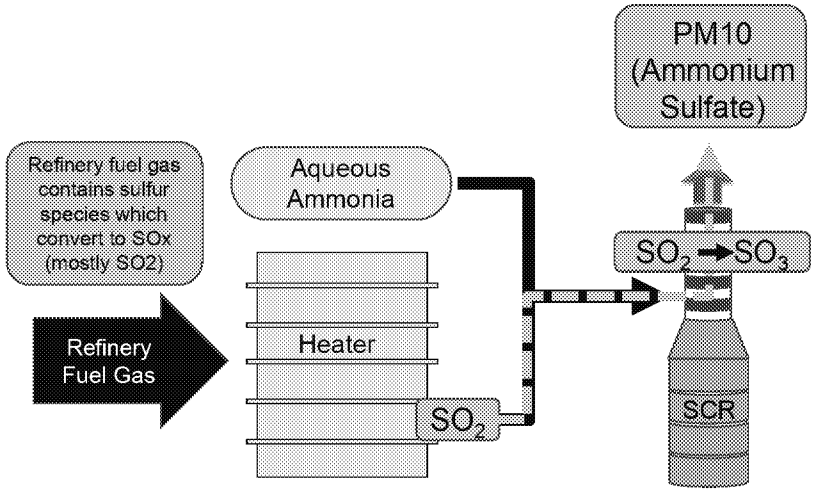
Directly Emitted PM10 Emissions



- Sulfur in fuel increases SO2 emissions from boilers and heaters
- SO2 is converted to SO3 on SCR catalyst
- Unreacted ammonia reacts with SO3 to form PM

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BACT Requirement Extends Only to the Source of the Emission Increase

Comment

- Scope of PM BACT is limited to the SCR unit and should not extend to the combustion source
- BACT should only apply to the control equipment (new source) and not the basic equipment
- "Actual modification" is installation of SCR, and combustion source is not being modified

- Installation of the SCR is considered a modification of the combustion unit
  - Rule 1303 (a)(1) applies to a modified source that results in an emission increase
  - The combustion unit is a modified source due to the installation of SCR
  - Staff has discussed this issue and your interpretation of "actual modification" with U.S. EPA
- Sulfur in the refinery fuel gas is the source of SO2 emissions which the SCR catalyst converts the SO2 to SO3
  - Ammonia in the catalyst combines with SO3 to form ammonium sulfate which is PM
  - If the SCR was not installed, sulfur from the refinery fuel gas would form SO2 from the stack of the boiler or heater

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Determination of Emission Increase Must Include Consideration of NOx Reductions

Comment

- The determination of whether or not a PM "emission increase" has occurred must include consideration of the NOx reduction
- Modeling should be allowed to determine whether there is an overall PM increase in atmosphere

- Traditionally emission increases from air pollution sources do not use modeling to demonstrate a no net increase
- Staff discussed this concept with U.S. EPA
  - Discussing use of modeling to show "net" PM emission increases accounting for against NOx reduction for NSR applicability
  - U.S. EPA commented that this approach has been used for IPT for offsets, but since NSR applicability is based on emission rates at the stack, it is not feasible for netting. may be more appropriate for offsetting

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Discussions with U.S. EPA Regarding Applicability of BACT for Basic Equipment When Installing Control Equipment

- U.S. EPA provided the following comments regarding the application of BACT for co-pollutants as a results of the installation of the SCR
  - U.S. EPA agrees with staff that BACT is applicable to all emissions for which there is a significant increase in emissions (e.g., above BACT thresholds) the basic equipment if there is an increase in emissions from the control equipment
  - If there is the project will result in an increase in of a regulated pollutant above the NSR threshold, BACT/LAER is applicable
  - BACT is applied to the pollutant and not the unit
  - BACT/LAER analysis conducted on a case-by-case basis and achieved in practice
- Staff presented an additional concept to U.S. EPA for the evaluation of a net increase in PM (next slide)
  - Approach focuses on the timing and location of the formation of PM emissions before and after installation of SCR system

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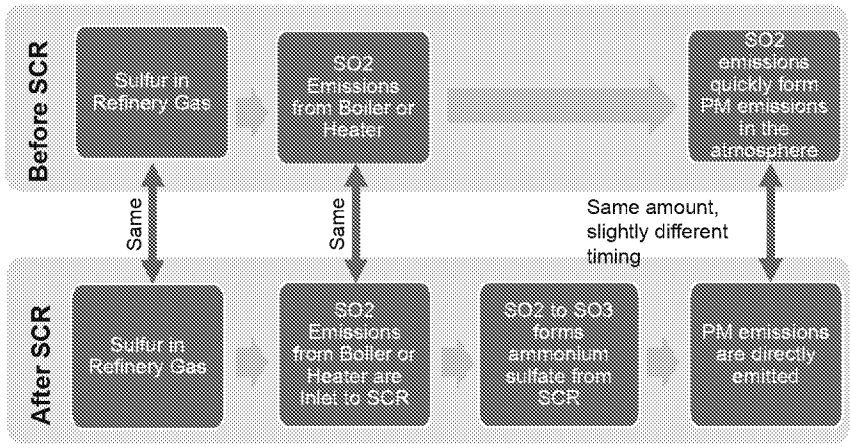
Evaluation of the Net Increase in PM Discussed with U.S. EPA



- Staff presented concept to U.S. EPA
- U.S. EPA does not agree with this approach because the regulations apply to emissions formed and measured in the stack

Sulfur content in fuel will be the limiting factor for PM emissions in both cases

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May 7, 2020 Comment Letter from Los Angeles Department of Water & Power (LADWP)

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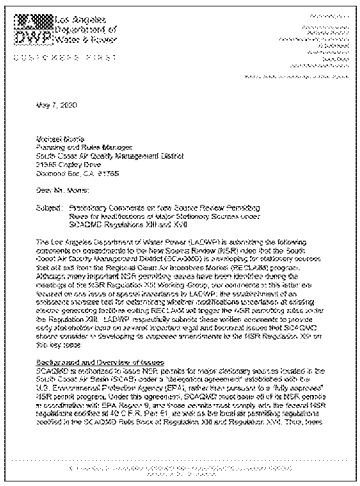
Summary of LADWP Comment Letter

- LADWP is concerned that South Coast AQMD will adopt Baseline Actual-to-PTE test for determining NSR applicability
- LADWP believes Baseline Actual-to-Projected Actual emissions test can be used for determining NSR applicability for several different reasons (next slide)



Los Angeles Department of Water & Power
DWP
CUSTOMER FIRST

May 7, 2020

Michael Morris
Planning and Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Mr. Morris:

Subject: Preliminary Comments on New Source Review Permitting Issues for Modifications of Major Stationary Sources under SCAQMD Regulations XIII and XVII

The Los Angeles Department of Water Power (LADWP) is submitting the following comments on amendments to the New Source Review (NSR) rules that the South Coast Air Quality Management District (SCAQMD) is developing for stationary sources that will exit from the Regional Clean Air Incentives Market (RECLAIM) program. Although many important NSR permitting issues have been identified during the meetings of the NSR Regulation XIII Working Group, our comments in this letter are focused on one issue of special importance to LADWP: the establishment of an emissions increase test for determining whether modifications undertaken at existing electric generating facilities existing RECLAIM will trigger the NSR permitting rules under the Regulation XIII. LADWP respectfully submits these written comments to provide early stakeholder input on several important legal and technical issues that SCAQMD should consider in developing its proposed amendments to the NSR Regulation. We list the key issues

Background and Overview of Issues
SCAQMD is authorized to issue NSR permits for major stationary sources located in the South Coast Air Basin (SCAB) under a "delegation agreement" established with the U.S. Environmental Protection Agency (EPA), rather than pursuant to a "fully approved" NSR permit program. Under this agreement, SCAQMD must issue all of its NSR permits in coordination with EPA Region 9, and those permits must comply with the federal NSR regulations codified at 40 C.F.R. Part 51, as well as the local air permitting regulations codified in the SCAQMD Rule Book of Regulation XIII and Regulation XVII. Thus, there

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Overview of LADWP's Key Points

Key Points for Using Baseline Actual-to-Projected Actual for NSR Applicability

SCAQMD is authorized to issue NSR permits for major sources under a "delegation agreement" with U.S. EPA	Allowed since July 1992 for Electric Generating Facilities (EGFs) pursuant to federal regulations	Not backsliding under SB 288 because Rules 1325 and 1714 include a Baseline Actual-to-Projected Actual applicability test	Federal CAA Section 110(l) does not preclude adopting a Baseline Actual Emissions-to-Projected Actual NSR test	Actual Emissions-to-PTE NSR applicability test has adverse regulatory and permitting impacts without corresponding air quality gains

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SCAQMD is Authorized to Issue NSR Permits for Major Sources Under a "Delegation Agreement" with U.S. EPA

Comment

- South Coast AQMD's NSR program is an U.S. EPA delegated program instead of a fully EPA approved program, therefore all NSR permits need to be coordinated with U.S. EPA

- South Coast AQMD's Nonattainment NSR program is an approved program under Regulation XIII
- Changes to federal NSR that affect Regulation XIII must be incorporated in Regulation XIII and submitted to CARB and U.S. EPA for approval
  - Changes to federal NSR that affect sources regulated under Regulation XIII will not apply until Regulation XIII is amended
  - For example, South Coast AQMD never amended Regulation XIII to incorporate federal revisions for Electric Generating Facilities (EGFs) that would allow use of a Baseline Actual-to-Projected Actual applicability test, so that federal NSR applicability test is not applicable to EGFs

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Allowed Since July 1992 for EGFs Pursuant to Federal Regulations

Comment

- July 1992 Federal NSR Regulations allowed a Baseline Actual-to-Projected Actual NSR applicability for EGFs
- "…this test has applied for many years to electric generating facilities in the SCAB through SCAQMD's NSR delegated program"

- U.S. EPA did allow EGFs to use a Baseline Actual-to-Projected Actual applicability test in 1992
  - Regulation XIII was never amended to allow EGFs to use Baseline Actual-to-Projected Actual applicability test
- Current NSR applicability test for all facilities is for VOC, NOx, PM10, SOx, and CO is PTE-to-PTE (Rule 1306(d))
- U.S. EPA has approved Regulation XIII, including the PTE-to-PTE applicability test

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Not Backsliding Under SB 288 Because Rules 1325 and 1714 Include a Baseline Actual-to-Projected Actual Applicability Test

Comment

- Using Baseline Actual-to-Projected Actual is not backsliding under SB 288 because Rules 1325 and 1714 have incorporated this applicability test

- SB 288 prohibits backsliding of NSR requirements that were in place as of December 30, 2002
- On December 30, 2002, the Regulation XIII applicability test was PTE-to-PTE for all facilities for VOC, NOx, PM10, SOx, and CO
- Rule 1325 was adopted in 2011 for PM2.5 and Rule 1714 was adopted in 2010 for GHGs
  - Both rules were new, for new pollutants after December 30, 2002
  - Both rules did not make Regulation XIII less stringent, because there were no provisions on December 2002
  - Adoption and implementation of these rules, including their NSR applicability test, is not backsliding under SB 288

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Federal CAA Section 110(l) Does Not Preclude Adopting a Baseline Actual-to-Projected Actual NSR Test

Comment

- Baseline Actual-to-Projected Actual test preserves status quo air quality and does not constitute a relaxation under CAA 110(l)

- At the June 13, 2019 Regulation XX Working Group Meeting, staff presented that Baseline Actual-to-Projected Actual is one of the NSR applicability tests allowed by 2002 NSR Reform
  - Staff did not pursue a Baseline Actual-to-Projected Actual applicability test because it could result in backsliding under SB 288
  - Staff did not cite Section 110(l) as a reason for not pursuing a Baseline Actual-to-Projected Actual NSR applicability test

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Actual-to-PTE NSR Applicability Test Has Adverse Regulatory and Permitting Impacts Without Corresponding Air Quality Gains

Comment

- Use of a Baseline Actual Emissions-to-PTE NSR applicability will impose considerable resource burdens to implement these NSR permitting requirements while having de minimis air quality and environmental impacts

- More major source modifications will be subject to NSR under an Actual-to-PTE applicability test compared to a PTE-to-PTE applicability test
- Staff's preference is to maintain PTE-to-PTE
- Staff's understanding was that there were two options under the NSR Reform rules:
  - Baseline Actual-to-Projected Actual
  - Baseline Actual-to-PTE
- As discussed in previous working group meetings, staff concluded that a Baseline Actual-to-Projected Actual applicability test would have issues with SB 288
- As a result, staff moved towards an Actual-to-PTE NSR applicability test

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Revisiting Retaining the PTE-to-PTE Test with U.S. EPA

- Comments raised by LADWP prompted staff to revisit NSR Reform Rules and associated documents related to the NSR applicability test
- Staff took a closer look at:
  - NSR Reform Rules
  - The 2003 Technical Support Document for NSR Reform Rules and Response to Comments
- During the May 28, 2020 conference call with U.S. EPA staff discussed retaining the PTE-to-PTE test applicability test for major source modifications

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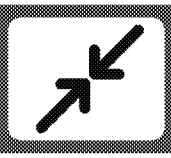
Key Points for Retaining the PTE-to-PTE Applicability Test



Alternative test of Baseline Actual-to-PTE is a more stringent applicability test than PTE-to-PTE, which seems counterintuitive when the objective of NSR Reform rules was to provide a more flexibility

Since the traditional applicability test is Actual-to-PTE, any states that did not use the Baseline Actual-to-Projected actual test could maintain their existing applicability test – for South Coast AQMD that test is PTE-to-PTE

Staff discussed the option to demonstrate programmatic applicability equivalency, however, EPA referenced NSR Reform rules which states that the demonstration must show "provisions are more stringent than or at least as stringent in **all respects**"

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U.S. EPA's Response and Possible Path Forward

- U.S. EPA disagreed with staff's presentation of retaining PTE-to-PTE
- Staff presented an alternative applicability test for major source modifications that could:
  - Retain the PTE-to-PTE applicability test and add along with the federal applicability test; and
  - This approach would comply Not interfere with SB 288, because it would retain current applicability requirements
- Approach would be based on a two-tiered approach (next slide)
- Staff has discussed concept with U.S. EPA and CARB

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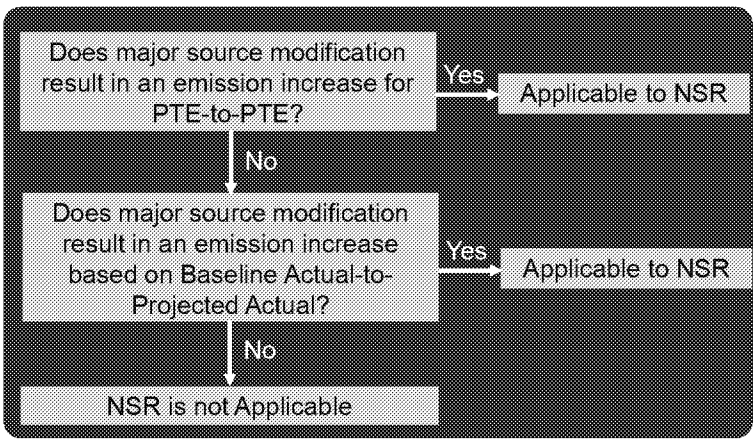
Proposed NSR Applicability Test for Major Source Modifications



- First applicability test is PTE-to-PTE
- Not backsliding under SB 288 since PTE-to-PTE applicability test is layered with the federal applicability test
- Still incorporates the Baseline Actual-to-Projected Actual applicability test consistent with NSR Reform rules

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Next Steps for Proposed NSR Applicability Test

- Staff will continue work with U.S. EPA and CARB
- Staff will refine the Baseline Actual-to-Projected Actual applicability test
- Need to ensure the Baseline Actual-to-Projected Actual applicability test is:
  - Permittable
  - Enforceable
  - Clear and provides guidance for compliance demonstration, including monitoring, recordkeeping, and reporting and ramifications if projected actual emissions are exceeded

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Proposed NSR Applicability Test for Minor Sources and New Major Sources

- Minor source modifications will retain PTE-to-PTE
- Staff is also proposing to allow major source modifications for newly permitted units to continue to use a PTE-to-PTE applicability test, with no second tier
- NSR Reform rules do allow major source modifications for newly recently permitted units to use a PTE-to-PTE applicability test if1:
  - The newly recently permitted unit is or will be newly constructed and which has existed for less than 24 months from the date the unit first operated
  - PTE-to-PTE is allowed since these units would not have 24 months of emissions data to establish the baseline emissions

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Summary of Proposed Major Source NSR Applicability Test

New or Modified Major Emission Sources	Current Regulation XIII Applicability Test	Proposed Change to Applicability Test
New major emission source	Actual-to-PTE	Actual-to-PTE
Modification to existing pre-NSR major emission source	Actual-to-PTE	Actual-to-PTE*
Modification to existing post-NSR major emission source (Need approval from U.S. EPA and CARB)	PTE-to-PTE	1st Tier: PTE-to-PTE 2nd Tier: Baseline Actual-to-Projected Actual[1]
Modifications to existing post-NSR major emission source, newly permitted (<24 months)	PTE-to-PTE	PTE-to-PTE

[1] More details regarding Baseline Actual-to-Projected Actual will be discussed in future Working Group Meetings

Note: No changes to the NSR applicability test for minor sources

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